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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,824	04/24/2007	Hyo Jin Lee	5188-0108PUS1	2383

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MANCUSO, HUEDUNG XUAN CAO

ART UNIT	PAPER NUMBER
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2821

NOTIFICATION DATE	DELIVERY MODE
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11/30/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/589,824	Applicant(s) LEE, HYO JIN	
	Examiner HUEDUNG Cao MANCUSO	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 10-13, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 07/20/09, with respect to the rejection(s) of claim(s) 1-22, under 35 USC § 102, drawings, and specification have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection to 35 USC § 102 is made in view of Applicant's admitted Prior Art (figures 1-3, and specification, pages 1-4).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Applicant's admitted Prior art (figures 1-3, and specification, pages 1-4) and Klemens et al. (US 6239755 B1).

As to claim 1, Prior art (1-3) teaches an mobile terminal, comprising: a terminal body (Prior art, fig. 1, element 11); an antenna (Prior art, fig. 1, element 12, and Klemens, figs. 1, element 104, 6A, elements 104, 604, 606) connected to a high frequency signal source (Prior art, fig. 1, element 13, and Klemens, fig. 6A, element 620) within the terminal body; and a grounding

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means connected to a ground voltage source within the terminal body which Prior does not explicitly disclose. Klemens teaches the grounding means 612 in fig. 6A. To one of ordinary skill in the art, it would have been obvious to provide Prior art the grounding means in order to enhance the performance of the antenna..

As to claim 2, wherein the antenna is a monopole antenna (Prior art, fig. 1, element 12, and Klemens, figs. 1, element 104).

As to claim 5, wherein the grounding means is embedded within the terminal body (fig. 6A)

As to claim 6, wherein an electro magnetic interference EMI intercepting metal shield is formed in a space other than a space where the grounding means is formed in the inside of the terminal body (see col. 5, lines 55-67).

As to claim 7, wherein the antenna includes: an antenna coil of which the linear length is 1/4 of the wavelength of the electric wave and which receives a high frequency signal power from the high frequency signal source (see col. 3, lines 55-62).

As to claim 8, wherein the antenna includes: a first core; and an antenna coil wound on the first core to receive a high frequency signal power from the high frequency signal source (see fig. Klemens, fig. 6A).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 9, 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossett (US 7495619 B2).

As to claims 3, 4, 9, 14, 15, 16, 17, 18, while Fossett does not specify the exact shape, size, location of the grounding means is exposed to the outside of the terminal body; wherein the grounding means includes: at least one grounding coil connected to the ground voltage source; a grounding means exposed to the outside of the mobile terminal; wherein the grounding means has a length of 1/4 of a wavelength of an electric wave; a dielectric substance formed between the grounding means and the mobile terminal, the exact shape, size, location is something that one of ordinary skill in the art would know how to best design for the optimum operation of the device when taking into consideration the size available for the device and the preferred cost in making the device

Allowable Subject Matter

6. Claims 10-13, 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the Prior art fails to specifically teach that the grounding means includes a second core through which a conductive inner core penetrates and of which the surface is insulated from the conductive inner core, wherein the conductive inner core is electrically connected to the high frequency signal source and the antenna coil; and a grounding coil wound on the second core and

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connected to the ground voltage source; an antenna coil to receive a high frequency signal]5 power from the high frequency signal source; a conductive inner core electrically connected to the high frequency signal source and the antenna coil; a core through which a conductive inner core penetrates, of which the surface is insulated from the conductive inner core, and which has a conductive surface electrically connected to the ground voltage source; and at least one grounding coil connected to the ground voltage source through the conductive surface of the core; a first core on which the antenna coil is wound; a conductive inner core electrically connected to one end of the antenna coil to receive the high frequency signal; and a second core through which the conductive inner core 10 penetrates and of which the surface is insulated from the conductive inner core, and wherein the at least one grounding coil is wound on the surface of the second core; a conductive inner core electrically connected to one end of the antenna coil to receive the high frequency 20 signal; and a core through which the conductive inner core penetrates, which remains to be insulated from the conductive inner core and which has a conductive surface connected to the ground voltage source, wherein one end of the at least one grounding coil is connected to the surface of the core.

7. Claims 21-22 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art fails to specifically teach that a conductive inner core electrically connected to one end of the antenna coil to supply a high frequency signal to the antenna coil; a second core through which the conductive inner core penetrates and of which the surface is insulated from the conductive inner core; and at least one grounding coil wound on the second core to receive a ground voltage;

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conductive inner core electrically connected to one end of the antenna coil to supply a high frequency signal to the antenna coil; a core through which the conductive inner core penetrates; a grounding surface formed on the surface of the core to receive a ground voltage; at least one grounding coil connected to the grounding surface, and wherein one end of the at least one grounding coil is connected to the grounding surface.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUEDUNG Cao MANCUSO whose telephone number is (571)272-1939. The examiner can normally be reached on 6:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huedung Cao Mancuso/

Primary Examiner, Art Unit 2821